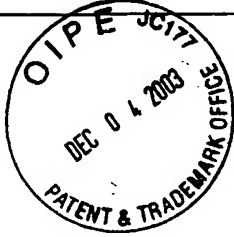


ARNOLD & PORTER



Rachel L. Adams, Ph.D.
Rachel_Adams@aporter.com

202.942.5512
202.942.5999 Fax

555 Twelfth Street, NW
Washington, DC 20004-1206

December 4, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Re: U.S. Patent Application No. 10/635,822
Filed: August 7, 2003
Title: Plant Fatty Acid Synthases and Use in Improved Methods for Production
of Medium-Chain Fatty Acids
Applicant: Katayoon DEHESH
A&P Ref. No.: 16518.131

Sir:

The following documents are forwarded herewith for appropriate action by the U.S.
Patent and Trademark Office (USPTO):

1. Information Disclosure Statement;
2. Form PTO-1449 (6 pages) with 48 accompanying references; and
3. Return postcard.

Please stamp the postcard with the filing date of these documents and return it to our
courier.

In the event that extensions of time are necessary to prevent abandonment of this patent
application, then such extensions of time are hereby petitioned. Applicants do not believe any
fees are due in conjunction with this filing. However, if any fees under 37 C.F.R. §§ 1.16 or 1.17
are required in the present application, including any fees for extensions of time, then the
Commissioner is hereby authorized to charge such fees to Arnold & Porter Deposit Account No.
50-2387, referencing matter number 16518.131. A duplicate copy of this letter is enclosed.

Respectfully submitted,

Rachel L. Adams (Reg. Attorney No. 54,660)
David R. Marsh (Reg. Attorney No. 41,408)

Attachments



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Katayoon DEHESH

Group Art Unit: To be Assigned

Appln. No.: 10/635,822

Examiner: To be Assigned

Filed: August 7, 2003

Atty. Docket: 16518.131

For: Plant Fatty Acid Synthases and Use in
Improved Methods for Production of
Medium-Chain Fatty Acids

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The attention of the Examiner is invited to the documents listed on the attached Form PTO-1449. Copies of the listed documents are submitted herewith.

It is respectfully requested that the information above be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

CERTIFICATION AND/OR FEE


Because this Information Disclosure Statement is being submitted prior to issuance of the first action on the merits of the above-captioned application, no certification or fee is required.

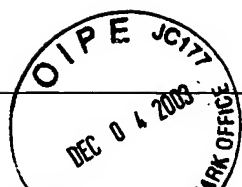
Respectfully submitted,

David R. Marsh (Reg. Attorney No. 41,408)
Rachel L. Adams (Reg. Attorney No. 54,660)

Date: December 4, 2003

ARNOLD & PORTER
555 Twelfth Street, N.W.
Washington, D.C. 20004-1206
(202) 942-5000 telephone
(202) 942-5999 facsimile

 FORM TPO-1449 INFORMATION DISCLOSURE STATEMENT				ATTY. DOCKET NO.		APPLICATION NO.	
				16518.131		10/635,822	
				APPLICANTS			
				Katayoon DEHESH			
FILING DATE				GROUP			
August 7, 2003				To Be Assigned			
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	5,585,535	12/17/96	Fehr <i>et al.</i>			
	AB1						
	AC1						
	AD1						
	AE1						
FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AF1	92/03564 ✓	03/1992	PCT			x Yes No
	AG1	92/20236 ✓	11/1992	PCT			x Yes No
	AH1	93/10240 ✓	05/1993	PCT			x Yes No
	AI1	94/10189 ✓	05/1994	PCT			x Yes No
	AJ1	94/10288 ✓	05/1994	PCT			x Yes No
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
	AK	1	Clough <i>et al.</i> , "Purification and Characterization of 3-Ketoacyl-Acyl Carrier Protein Synthase III from Spinach", <i>The Journal of Biological Chemistry</i> , 267(29):20992-20998 (1992) ✓				
	AL	1	Dehesh <i>et al.</i> , Database EMBL, Accession No. AX073486 (XP002213168) (2001) ✓				
	AM	1	Dehesh <i>et al.</i> , "GT-2: A Transcription Factor with Twin Autonomous DNA-Binding Domains of Closely Related but Different Target Sequence Specificity", <i>The EMBO Journal</i> , 11(11):4131-4144 (1992) ✓				
	AN	1	Dehesh, "KAS IV: 3-Ketoacyl-ACP Synthase from <i>Cuphea sp.</i> is a Medium Chain Specific Condensing Enzyme", <i>The Plant Journal</i> , 15(3):383-390 (1998) ✓				
	AO	1	Dehesh <i>et al.</i> , "Production of High Levels of 8:0 and 10:0 Fatty Acids in Transgenic Canola by Overexpression of CH FatB2, a Thioesterase cDNA from <i>Cuphea hookeriana</i> ", <i>The Plant Journal</i> , 9(2):167-172 (1996) ✓				
	AP	1	Dehesh <i>et al.</i> , "Two Novel Thioesterases are Key Determinants of the Bimodal Distribution of Acyl Chain Length of <i>Cuphea palustris</i> Seed Oil", <i>Plant Physiol.</i> , 110:203-210 (1996)				
EXAMINER					DATE CONSIDERED		
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.							



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U.S. PATENT DOCUMENTS

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	AA2						
	AB2						
	AC2						
	AD2						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AF2	95/06740 ✓	03/1995	PCT			x (abstract only) Yes No
	AG2	95/15387 ✓	06/1995	PCT			x Yes No
	AH2	96/23892 ✓	08/1996	PCT			x Yes No
	AI2	98/46766 ✓	10/1998	PCT			x Yes No
	AJ2	0 969 014 ✓	01/2000	EPO			x Yes No

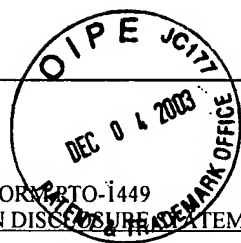
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	2	Eccleston <i>et al.</i> , "Expression of Lauroyl-Acyl Carrier Protein Thioesterase in <i>Brassica napus</i> Seeds Induces Pathways for Both Fatty Acid Oxidation and Biosynthesis and Implies a Set Point for Triacylglycerol Accumulation", <i>The Plant Cell</i> , 10:613-621 (1998) ✓
	AL	2	Fuhrmann <i>et al.</i> , "Factors Controlling Medium-Chain Fatty Acid Synthesis in Plastids from Maturing <i>Cuphea</i> Embryos", <i>Z. Naturforsch</i> , 48c:616-622 (1993) ✓
	AM	2	Harwood, "Fatty Acid Metabolism", <i>Ann. Rev. Plant Physiol. Plant Mol. Biol.</i> , 39:101-138 (1988) ✓
	AN	2	Hawkins <i>et al.</i> , "Characterization of acyl-ACP Thioesterases of Mangosteen (<i>Garcinia mangostana</i>) Seed and High Levels of Stearate Production in Transgenic Canola", <i>The Plant Journal</i> , 13(6):743-752 (1998) ✓
	AO	2	International Search Report, PCT/US01/23369 dated September 25, 2002 (4 pages)
	AP	2	Jaworski <i>et al.</i> , "A Cerulenin Insensitive Short Chain 3-Ketoacyl-Acyl Carrier Protein Synthase in <i>Spinacia oleracea</i> Leaves", <i>Plant Physiology</i> , 90:41-44 (1989) ✓

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	AD3						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AF3	00/07433 ✓	02/2000	PCT			x Yes No
	AG3	00/75343 ✓	12/2000	PCT			x Yes No
	AH3	01/29238 ✓	04/2001	PCT			x (abstract only) Yes No
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	AJ3						Yes No

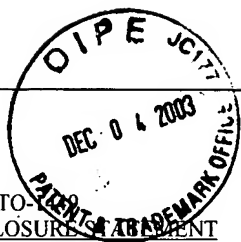
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	3	Kaneko <i>et al.</i> , Database EMBL, Accession No. D90905 (XP002213167) (1996). ✓
	AL	3	Kaneko <i>et al.</i> , "Sequence Analysis of the Genome of the Unicellular Cyanobacterium <i>Synechocystis sp.</i> Strain PCC6803 II. Sequence Determination of the Entire Genome and Assignment of Potential Protein-coding Regions", <i>DNA Research</i> , 3:109-136 (1996) ✓
	AM	3	Kauppinen, "Structure and Expression of the <i>Kas12</i> Gene Encoding a β -Ketoacyl-Acyl Carrier Protein Synthase Isozyme from Barley", <i>The Journal of Biological Chemistry</i> , 267(33):23999-24006 (1992) ✓
	AN	3	Leonard <i>et al.</i> , "A Cuphea β -Ketoacyl-ACP Synthase Shifts the Synthesis of Fatty Acids towards Shorter Chains in <i>Arabidopsis</i> Seeds Expressing Cuphea FatB Thioesterases", <i>The Plant Journal</i> 13(5):621-628 (1998) ✓
	AO	3	Martini, "Modification of Fatty Acid Composition in the Storage Oil of Transgenic Rapeseed", <i>Biological Chemistry Hoppe-Seyler</i> , vol. 376, pp. S55 (1995) ✓
		3	Ohlrogge, "Design of New Plant Products: Engineering of Fatty Acid Metabolism", <i>Plant Physiol.</i> , 104:821-826 (1994) ✓

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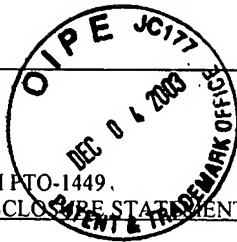
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	4	Post-Beittenmiller <i>et al.</i> , "In vivo Pools of Free and Acylated Acyl Carrier Proteins in Spinach", <i>The Journal of Biological Chemistry</i> , 266(3):1858-1865 (1991) ✓				
	AL	4	Radke <i>et al.</i> , "Transformation of <i>Brassica napus</i> L. Using <i>Agrobacterium Tumefaciens</i> : Developmentally Regulated Expression of a Reintroduced Napin Gene", <i>Theor. Appl. Genet.</i> 75:685-694 (1988)				
	AM	4	Schuch <i>et al.</i> , "Medium-chain acyl-ACP Thioesterase is not the Exclusive Enzyme Responsible for Early Chain-Length Termination in Medium-Chain Fatty Acid Synthesis", <i>Grasas y Aceites</i> , vol. 44, Fasc 2, pp. 126-128 (1993) ✓				
	AN	4	Shimakata <i>et al.</i> , "Isolation and Function of Spinach Leaf β -Ketoacyl-(Acyl-Carrier-Protein) Synthases", <i>Proceedings of National Academy of Science, USA</i> , 79:5808-5812 (1982) ✓				
	AO	4	Siggard-Andersen <i>et al.</i> , "The fabJ-Encoded β -Ketoacyl-(Acyl Carrier Protein) Synthase IV from <i>Escherichia coli</i> is Sensitive to Cerulenin and Specific for Short -Chain Substrates", <i>Proc. Natl. Acad. Sci., USA</i> , 91:11027-11031 (1994) ✓				
	AP		Slabaugh <i>et al.</i> , "Condensing Enzymes from <i>Cuphea wrightii</i> Associated with Medium Chain Fatty Acid Biosynthesis", <i>The Plant Journal</i> , 13(5):611-620 (1998) ✓				

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	AI5						Yes No
	AJ5						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	5	Slabaugh <i>et al.</i> , GenEMBL Sequence Accession No. U67317 (1996)
	AL	5	Slabaugh <i>et al.</i> , "cDNA Clones Encoding β -Ketoacyl-Acyl Carrier Protein Synthase III from <i>Cuphea wrightii</i> ", <i>Plant Physiology</i> , 108:443-444 (1995) ✓
	AM	5	Tai <i>et al.</i> , "3-Ketoacyl-Acyl Carrier Protein Synthase III from Spinach (<i>Spinacia oleracea</i>) is not Similar to Other Condensing Enzymes of Fatty Acid Synthase", <i>Plant Physiology</i> , 103:1361-1367 (1993) ✓
	AN	5	Töpfer <i>et al.</i> , "Modification of Plant Lipid Synthesis", <i>Science</i> , 268:681-685 (1995) ✓
	AO	5	Tsay <i>et al.</i> , "Isolation and Characterization of the β -Ketoacyl-Acyl Carrier Protein Synthase III Gene (fabH) from <i>Escherichia coli</i> K12", 267(10):6807-6814 (1992) ✓
	AP	5	Voelker <i>et al.</i> , "Genetic Engineering of a Quantitative Trait: Metabolic and Genetic Parameters Influencing the Accumulation of Laurate in Rapeseed", <i>The Plant Journal</i> , 9(2):229-241 (1996)

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FOREIGN PATENT DOCUMENTS

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	AG6						Yes No
	AH6						Yes No
	AI6						Yes No
	AJ6						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AK	6	Voelker <i>et al.</i> , "Plant Acyl-ACP Thioesterases: Chain-Length Determining Enzymes in Plant Fatty Acid Biosynthesis", <i>Genetic Engineering</i> , 18:111-133 (1996) ✓
	AL	6	Voelker <i>et al.</i> , "Fatty Acid Biosynthesis Redirected to Medium-Chains in Transgenic Oilseed Plants", <i>Science</i> , 257:72-74 (1992) ✓
	AM	6	Walsh <i>et al.</i> , "The Short Chain Condensing Enzyme has a Widespread Occurrence in the Fatty Acid Synthetases from Higher Plants", <i>Phytochemistry</i> , 29(12):3797-3799 (1990) ✓
	AN	6	Winter <i>et al.</i> , "Decarboxylation of Malonyl-(Acyl Carrier Protein) by 3-Oxoacyl-(Acyl Carrier Protein) Synthases in Plant Fatty Acid Biosynthesis", <i>Biochem. J.</i> , 321:313-318 (1997) ✓
	AO	6	
	AP	6	

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